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International Research Workshop on IT Project Management 2012

International Research Workshop on IT Project Management (IRWITPM)

12-15-2012

Obtaining Top Management Support in IT Projects: A Case Study

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ABSTRACT

Research has argued that one reason for IT project failure is the lack of top management support. However, obtaining top management support is often considered outside the IT project team's locus of control. Our research demonstrates that top management support can be obtained through continuous engagement. Also, a failure to engage can decrease top management support. We reveal an engagement strategy that starts with small favor requests followed by increasingly onerous favors rewarded by small concessions. This is demonstrated through a case study of the support of three division heads and their corresponding divisions in the implementation of an enterprise system. In case 1, an indifferent division head withdrew support after a lack of IT engagement. In case 2, a hostile division head became an advocate of the system after continuous IT engagement. Finally, in case 3, a supportive division head became more supportive as a result of continuous engagement by IT.

Keywords

IT implementation, top management support, social engagement.

INTRODUCTION

The literature emphasizes that top management support (TMS) is a critical IT project success factor (Biehl 2007; Holland and Light 1999), which includes not only resourcing, but also participation and involvement (Dong et al. 2009; Jarvenpaa and Ives 1991). Indeed, top management support may be the most important success factor in IT projects (Young et al. 2011).

However, the literature also suggests that top management support is outside the locus of control of an IT project manager (Schmidt et al. 2001). Current research has failed to demonstrate strategies to influence behaviors and attitudes of top managers (Young and Jordan 2008). This creates a serious dilemma. How can an IT project succeed, when a critical success factor is outside the project's control?

This research attempts to address the question of how the IT project team can encourage top management support of their projects through a case study of three division heads in the implementation of an organization-wide ERP system. The contribution of the research is a demonstration that social engagement may provide a key (Kahn 1990; Nielsen and González 2010; Rothbard 2001). In social engagement, the IT team establishes a personal relationship with top management. We find the engagement of top management by the IT project team does a lot to increase top management support. One engagement technique is for the IT project team to initially ask top management for small favors, which get top management to perform small project jobs. As top management does more work, the IT team asks for increasingly more onerous favors, increasing both management participation and involvement. Furthermore, we find that lack of engagement can cause a decrease of support.

RELATED RESEARCH

Most research agrees top management support (TMS) is important for project success (Biehl 2007; Bradley 2008; Lam and Chua 2005). Substantial research argues TMS is a direct predictor of project success (Doll 1985; Jarvenpaa and Ives 1991; Liang et al. 2007). Others suggest it is an interaction term, working with other factors; it has been argued that TMS is especially critical when a project is highly task interdependent, and cross-functional (Davenport et al. 1998; Sharma and Yetton 2003). Some research argues TMS is the most critical factor impacting project success (Young and Jordan 2008; Young et al. 2011).

Obtaining Top Management Support

The literature generally argues that top management support (TMS) comprises three critical components: (1) resource provision, (2) participation and (3) involvement (Dong et al. 2009; Jarvenpaa and Ives 1991; Subramanian and Lacity 1997).

Resource Provision: IT projects require resources in the form of money, personnel, and equipment. Top management is responsible for allocating funds, assigning personnel and equipment to a project, and building a context that facilitates the flow of resources (Doll 1985; Dong 2008).

Participation: Top management must be present for the entire project duration (Aloini et al. 2007). The visibility of top management is thus, another important manifestation of TMS. Generally, the larger the project, the more work top management must do (Young and Jordan 2008). Top management must set the project goals (Nah et al. 2003) and help solve management problems (Young and Jordan 2008).

Involvement: Participation of top management must be sincere and effortful. The psychological state of top management is critical to project success (Dong et al. 2009), and top management must demonstrate commitment (Loonam and McDonagh 2005; Parr and Shanks 2000). Top management must express public and sincere support (Nah et al. 2007), and prioritize the project (Nah and Delgado 2006).

While the literature emphasizes the importance of TMS and delineates the things top management must do (i.e., provide resources and participate), it does not discuss how an IT project team can obtain TMS if it is not forthcoming.

Social Engagement

To answer this question, we turn to the literature on social engagement. Social engagement refers to how one can encourage another to harness **"**their personal selves during work role performances" (Kahn 1990: 694). An engaged person is characterized by vigor, dedication and absorption (i.e. being immersed in the work role or activities) (Rothbard 2001). With an emphasis on high-level initiative and enterprise, engagement differs from involvement, emphasizing normative compliance to a role and its context (Schohat and Vigoda-Gadot 2010). With an emphasis on "optimal functioning" psychological states (Hallberg and Schaufeli 2006), engagement is distinct from participation. An engaged person is also engaging and can transfer positive states to partners (Bakker and Demerouti 2009), team members (Bakker et al. 2006), and supervisors (Nielsen and González 2010).

Research demonstrates that one simple way to increase engagement is to establish a personal relationship with the other party and get the other party to do favors on your behalf. Favor asking enables one to expose people to a series of quick and low risk episodes (Yukl et al. 1993). The more exposure and favors the other party does, the more supportive they become. Evidence of the effect of exposure and favors on cognitive mindsets derives from a number of theories, including:

Exposure Effect (Zajonc 1968)**:** The exposure effect is a demonstrated phenomenon in psychology where one likes something the more one is exposed to it (Bornstein 1989). It is heavily leveraged in marketing campaigns, which try to maintain brand awareness in the consumer (Knobloch-Westerwick and Crane 2012; Venkatesan and Farris 2012). The exposure effect suggests that simply exposing top management to an IT project repeatedly makes them more favorably inclined to the project.

Induced Compliance (Festinger and Carlsmith 1959)**:** Induced compliance occurs when one is asked to do someone else a favor related to a task. The favor creates cognitive dissonance (Festinger 1957), and the person performing the favor becomes more inclined to the task. Induced compliance was first demonstrated in an experiment where students performing a boring, repetitive task were asked to persuade others that a task was interesting. It was found that the less money a student was offered to perform the task, the more the persuading student became enamored of the task (Festinger and Carlsmith 1959). Induced compliance suggests one can get top management to like an IT project by asking them to do small favors for the project, for example, by circulating news of the project.

Effort Justification: Effort justification occurs when one is asked to engage in effortful favors for another party. The more effort one puts in, the more cognitive dissonance occurs (Alessandri et al. 2008; Festinger 1957) where one

believes one is performing the favors because of a positive association with the other party. Effort justification often occurs in sunk-cost situations, where people continue performing a task that provides little benefit because they have already sunk in much time and effort (Cunha and Caldieraro 2009; Watters 1995). Effort justification implies that increased TMS is created by increasing top management participation in the project.

Overall, these theories suggest that one way of obtaining TMS is to engage top management gradually. Someone in the IT project should be visible to top management and encourage top management to do favors for the project. Initially, such favors can be small and are induced out of top management's positive feelings or pity for the project team. However, over time, the favors become more onerous to increase management's psychological commitment.

The basic argument is that an engaged IT project team can obtain TMS even if it is not forthcoming. By making their presence (and enthusiasm) felt and asking for favors, the IT team transfers positive attitudes to top managers and introduces increasing dissonance in managers' behavior and cognition. This motivates top management to change their opinions and behaviors to favor the IT project.

METHODOLOGY

We studied a two-period cross-case natural experiment of an ERP implementation in a large, leading semiconductor design house (pseudonymously called DesignCom) (Eisenhardt 1989; Lee 1989; Yin 2003). In our study, we compare the effect of engagement by the IT project team on the support three division heads gave for implementing modules of the same ERP system.

Research site

DesignCom is a spin-off from a large wafer manufacturer. It employs over one thousand employees worldwide, and has sales revenue approaching one billion US dollars. It inherited many distributed information systems from its parent. DesignCom initiated its ERP project partly to replace these aging, disparate systems and partly to centralize control of the once distributed systems.

Data collection

The first author entered the field site from January to December 2011 to collect retrospective data on the implementation, which lasted about 15 months from February 2006 to May 2007. The events studied cover the period of implementation. Access to the field site was granted by the organization's CFO who was a member of the project steering committee. Data was collected through three principal channels, (1) semi-structured interview, (2) internal company documentation, and (3) on-site observation (Dubé and Paré 2003). Table 1 breaks down data sources into 22 interviews and various documents.

Documents		
Minutes of meetings including the kickoff and milestone review meetings		
User wish lists		
Magazine reports about the implementation		
ERP training manuals		
Snapshots of users' electronic working environments (ERP and non-ERP)		
Interview		
Stakeholders	**# of interviews**	**# of distinct interviewees**
Procurement representatives	3	3
Product engineering representatives	3	3
Finance representatives	6	3
IT	7	4
Consultants	3	2
Total	**22**	**15**

Table 1. Breakdown of Data Sources

We first queried three knowledgeable IT members, architects and monitors of the project, about all divisions affected by the implementation. Three divisions (finance, procurement, and product engineering divisions) varied along the dimension of the level of initial and final support for the project afforded by their division heads. As data

collection proceeded, we discovered a systematic variation between the level of engagement the IT team offered to the divisions and TMS.

Interviewees were selected based on principles suggested by Huber and Power (1985). We sampled multiple individuals from each division, and representatives from the broader IT project team (i.e., internal IT members and consultants). We chose people with different roles (IT personnel, key users, and end users) and levels (managerial and non-management). During interviews, we would probe when we sensed answers were incomplete. We used pauses and silences strategically to elicit more information.

Top management in this research refers to the most senior managers in the three divisions. Our focus on these individuals is in accordance with work arguing that top management is best identified as individuals who make strategic decisions about outcomes of interest (e.g. project success)(Carpenter et al. 2004; Jackson 1992).

We first asked questions about interviewees' position and role. We then asked questions about the progress of the project from a project management perspective. We next moved to specific questions about IT engagement and provision of TMS. Such questions included those on the time, resources and effort the IT group spent on talking to, working with, and responding to top management and users about particular events or issues. Questions about TMS revolved around resources (time, money, equipment, personnel) top management provided, and their attitudes and behaviors towards the project. We asked about how support from the IT team impacted the organization and their divisions.

Interviews lasted between one and two hours and most were recorded and transcribed verbatim. After interviews, we often asked users to demonstrate the system in their work context. The demonstration helped us understand the issues that the divisions encountered during the project (Meyer 1992).

Data analysis

Within each case, we built a chronological timeline of major events. We used the timeline to identify breakpoints, following the temporal bracketing strategy (Langley 1999: 707). The temporal bracketing strategy attempts to identify periods that have temporal continuity that are "bracketed" by discontinuities, i.e., events that demarcate a logical breakpoint in the narrative (c.f. Newman and Robey 1992). The first period was identified as the "initial management support" period. In this period, we focused on coding (1) TMS and (2) IT engagement. The second period was identified as the "final management support" period. Here, we focused on coding the endogenous construct, i.e., TMS. We summarize our coding rules in Table 2.

Construct	Category	Observation
TMS	High	Top management voiced public support for the implementation, worked with the team, and allocated dedicated resources to increase the chance of implementation success
	Resistance	Top management voiced hostility and refused to provide material resources
	Token	Top management voiced support, but allocated no dedicated resources
IT engagement	High	The IT team showed their enthusiasm about the project and allocated dedicated resources to meet with and work with top management. Also, the IT team must have encouraged top management to perform work for the project in some way
	Low	The IT team assigned no dedicated resources to meet with and work with top management and management was not encouraged to perform work for the project

Table 2. Coding of Constructs

FINDINGS

Table 3 presents an overview of the variations in support (both initial and final), level of engagement, and breakpoints. Each case had two periods, and one breakpoint. There was no noticeable change in the support provided to the finance division, hence no breakpoint. We have distinct levels of initial TMS, ranging from high support to resistance by top management. We also have a reversal, where a division head who initially resisted the project became a supporter, while a division head who did not resist the project resisted the project at the end. The Finance case confirms our findings, as both support and engagement remain high throughout. The following sections are detailed description of each case.

	Exogenous constructs		Endogenous construct	Breakpoint
	Initial support	Engagement	Final support	
Procurement	Token	Low	Resistance	Email flame war between key user and favored employee
Product engineering	Resistance	High	High	IT person's heart attack during holiday work
Finance	High	High	High	NA

Table 3. Case Site Overview

Procurement division

Initial Management Support: In the year prior to the ERP implementation, the procurement division attempted and failed to introduce an unrelated software package. As a result, the procurement division was generally skeptical of packaged software. Nevertheless, the manager of the procurement division, along with the rest of his division, felt the project would provide certain (restricted) benefits to the procurement division. He felt the system would help the division with its ordinary work, but was inadequate for managing the complex procurement processes.

Publicly, the manager supported the project. He agreed the procurement division would be a part of the project and anticipated that the system would produce (limited) benefits. However, resourcing and support provision was low. The manager assigned a junior employee full-time to manage the ERP implementation (the key user). The manager also informed other users that the implementation was not to negatively impact the regular divisional routine.

> *It's very possible that they [users] would feel the conflict during the implementation, but what's more important for us was the use of the system, not its implementation.* (Procurement manager)

Engagement: Because the procurement manager did not relieve users of their regular responsibilities, users only attended training events occasionally and gave few requirements. The key user collected requirements and promoted training, but given her junior status and people's workloads, procurement division users generally did not pay attention to her.

The key user exhorted the procurement division users to do more work, but they generally ignored her. She complained to the project team that users were not doing the work or showing up for meetings. As a result, users treated the key user as a spy, viewing this person as someone who reported their absences in the project to management.

This created a rift between staff who had been in the company for less than one year (junior staff) and senior staff in the division. Generally, junior staff were sympathetic to the implementation and cooperative. Senior staff considered the implementation the key user's responsibility. The poor attendance of senior staff at requirements gathering and training events also meant they had a poor understanding of what the project was about. The divisional wish list for the system was sketchy, poorly organized, and was phrased in a way that did not easily map into features of the ERP system.

Despite these problems, the IT team did not encourage the procurement team to perform their project jobs. They thought users were just being difficult and afraid of change. The IT team also adopted an uncompromising stance, refusing to change schedules to accommodate the lack of cooperation by the procurement division.

> *The project had to be on schedule. It's time bound and we had to stick to it.* (IT team member)

Final Management Support: The tensions arising as a result of the implementation came to a head when an email flame war started between an employee favored by the divisional manager and the key user. The flame war arose, because the key user kept highlighting the employee's absence in training events. While other parties knew about the public exchange, they did not contribute to it.

> *Every once in a while, I summarized and reported how many times people skipped training… That guy replied to all, to all those in my email loop, and asked whether I had intended to highlight his absence and embarrass him…people would feel ashamed if they got caught, but he didn't at all. He argued I had no right to review his performance. He replied emails to everyone, everyone including [the manager].* (Procurement division key user)

After the event, the key user refrained from pushing users. Distinctions between junior and senior staff were clearly demarcated, with each group describing the opposite side as "strange," and "incomprehensible" (Procurement division user). The divisional manager accused the IT group of managing the project poorly, thereby creating interpersonal tension.

> *They [IT team] did a poor projection, totally wrong planning of the workforce. I asked the key user to reconfirm with them. This [wrong projection] caused extreme tension, many interpersonal problems… Workforce was very, very tight. Naturally things weren't getting done well.* (Procurement manager)

Finally, the IT team delayed the project for one month because of unsatisfactory data quality. The concession was not appreciated since it did not address the issues users raised, i.e. perceived system constraints. The divisional manager remained skeptical about the system. Post-implementation, users used the system for archiving data, and continued relying on legacy systems for work.

Product engineering division

Initial Top Management Support: The product engineers were essential to the project, as they were required to feed product information into the ERP. Since there was only one new system function to be implemented at this division, the divisional manager felt he could allocate just one user to the job. However, all invited users declined. The manager then assumed the role himself to "help the IT people." The divisional manager's routine work required him to be at various factory sites. Thus, he could only work on the ERP project during after-work hours.

In the initial phase, the engineers considered the system tangential to their work. The divisional manager was the only divisional member who attended the initial ERP demonstration. During the demonstration, he commented critically and publicly that the system appeared "complicated," "difficult" and "unfriendly." No benefits from implementing the ERP were anticipated and envisioned at the division. When the division was invited to work on data migration, they refused.

Engagement: Because of the engineering division's resistance, the IT division agreed to change the implementation plan. These changes included developing a new system for entering product data and simplifying data entry. An experienced IT employee was assigned to work with the divisional manager outside of official work hours.

> *I worked in a meeting room with [the division manager] after work… [During the apex of the project], I often worked until 2 or 3 a.m. and then came back before 8 the next morning.* (IT team member)

The key user and IT employee developed a very close working relationship, even coming back on a public holiday to work on the project. That day was particularly eventful, because the IT employee suffered a sudden illness.

> *…I had a vivid impression of that day. It's a national holiday but we were still working. [the IT employee] almost got a heart attack. I tried to give him a massage. He's been overworked for too long…This is how we've developed comradeship.* (Product engineering manager)

The IT employee also did other things to engage the product engineering division. For example, he made reference to their common academic affiliation and attempted to actively socialize with them. IT resources were dedicated to customize the ERP system to the needs of the product engineering division.

> *Some of them graduated from the same university or even high school as I did. I often bought them coffee and asked for their help…At that time, telling them the system would help really didn't work. They wouldn't listen… It's all down to favoritism. (IT team member)*

Final Top Management Support: As a result of concessions and interaction between the IT employee and the division head, the division head began to appreciate how the new ERP would help both the engineering division and

the company as a whole. The main benefit to the engineering division was a reduction in paperwork. The divisional manager also helped describe the benefits of the system in ways other top managers could visualize. His engineering background helped him articulate numbers and scenarios and disseminate them clearly during meetings with other top managers.

> *I did some statistics and reported these to General Manager... If people were well trained and processed data correctly, say at 99.9% with 5000 transactions through 8 production stations, we still made 40 mistakes a year.* (Product engineering manager)

The division head's positive feedback changed the division's perceptions of the system. Before implementation, product information was separately documented by each engineer and scattered in distributed systems. When the implementation completed, the information was integrated in a single system. Users responded positively to the idea that the integrated data would increase work efficiency. Training was also provided by the division head who considered the quality of product data his responsibility.

> *To maintain consistency of product data, I trained [engineering] users. I also trained key users [from other divisions]...it now becomes part of our orientation for all newcomers, held four times a year.* (Product engineering manager)

By the end of the project, users willingly entered data into the ERP system after work hours for about one month. The extra work hours created stress. The engineers joked about their condition as "a man without life" (Engineering division user) but were willing to do it. Post-implementation, the division relies on the system. The division head is the chief trainer and considers it his job to enforce use of the centralized database across the company.

Finance division

Initial Management Support: The finance division was among the most excited about the implementation as DesignCom had few general administrative systems. The division users anticipated the new ERP would save them from "chronic overwork" and "backbreaking data entry" as they would no longer have to rekey information from other divisions. However, the finance division users felt they had little knowledge in information systems. They also were concerned about the quality of data originating from other divisions.

Given this, the manager considered the ERP implementation important, and assigned the second most senior person at the division as a full-time key user to facilitate the implementation. The finance manager provided the division with substantial resources to support the implementation. For example, each user was allocated a deputy to cover their routine work while they worked on the project.

The finance division manager attended important meetings, including the kickoff and major milestone meetings. He often publicly praised the team and encouraged users to work on training and the implementation. The key user also reminded users to attend trainings and briefed users after each meeting with the implementation team. The key user was relieved of her mundane divisional duties and allowed to focus full-time on the implementation.

Engagement: After working with three IT members over two projects before the ERP implementation, the finance manager was impressed by IT. He was willing to do favors the IT team asked.

The IT team worked very closely with the finance division to ensure requirements were met. For difficult requirements, the IT group explained why the requirements could not be implemented. They promised that some requirements would be prioritized in future projects. Technical experts were assigned full time to the division. Technical advice was often sought by the division, and the division listened to advice.

The IT team were perceived to be "always there" (Finance division user) and acted in the interest of users. When problems with other divisions arose, they proactively arranged meetings for discussion. The manager appeared in several meetings and sent Finance users to the meetings. The key user also constantly informed users and the manager of the project status and asked for their opinions whenever a decision was going to affect them.

> *[An IT member] would call a meeting and find all stakeholders. He attended almost all meetings related to our division. I even skipped several of them. His team was very helpful and enthusiastic.* (Finance division key user)

Final Management Support: Both users and management continued to work hard throughout the project. Because of the advice and support of the IT team, the users decided to implement a new service (variance analysis) afforded by the ERP. The manager agreed to commit extra resources and felt the service could benefit the division and the whole organization.

The manager even voluntarily showed up for meetings which he was notified of, but not required to attend. The IT team described the manager as "super studious who showed up every time without exceptions." Because of his interaction with IT members and feedback from the key user, the manager perceived the IT division as his strategic partner. Given the strong support of the manager and the IT team, the division was highly positive about the system post-implementation. They became proficient users and leveraged the system to offer the organization new services.

DISCUSSION

Our study reveals the importance of engagement for obtaining TMS. The product engineering division case, especially, reveals how one can turn around management opinion through engagement. Initially, the division manager was openly hostile to the ERP project. However, an IT person was assigned to work with this manager after office hours over a prolonged period of time. The close contact between the two men shifted the manager's opinion to favor the project.

Also, the IT team demonstrated both proactiveness in resolving issues and respect for differences. When the division complained about the system, the IT group listened and implemented workarounds and new reports to accommodate them. Concessions and cooperative behaviors by the IT team were appreciated and reciprocated.

Furthermore, the manager was asked to commit increasingly to the project. Initially, he worked after office hours. Over time, he did more work for the project and for the IT person. His increasing commitment to the project reversed his opinion and convinced his entire division to work for the project. He even felt personally responsible for the product data and volunteered to train people.

The approach by the IT division to the procurement division stands as a polar opposite. Initially the manager was not hostile to the implementation. He was willing to commit some resources as witness his assignment of an employee to the project. However, this person was asked to engage her own division by herself, without IT support. This person repeatedly asked IT for help, but was rebuffed. When the division raised a problem, the IT group rejected the problem as inconsequential, instead of trying to reach an accommodation. The IT team did not second people to the procurement division despite the division's lukewarm response.

Things came to a head when the procurement representative got into an email flame war with an employee favored by the manager, which resulted in a refusal by the manager to allocate additional resources. The manager also attributed the internal tension to poor planning by the IT team.

Finally, the relationship between IT and the finance division confirms the importance of engagement in ensuring repeated TMS. As with the product engineering division, the IT team engaged the finance division throughout the ERP project's lifecycle. Issues the division raised were discussed and resolved by the IT division. Full-time IT resources were allocated to the division. As a result, the finance division continued to champion the ERP project to its completion. Our research suggests that IT groups can influence TMS for IT projects in three ways:

Maintain positive relationships with top management

As is demonstrated in this case, such relationships need not be established by the CIO, although doing so is undoubtedly helpful. Instead, such relationships can be established between top management and relatively junior IT staff or key user who shares similar language or knows well top management. In accordance with the exposure effect (Zajonc 1968), the key appears to be that the relationship is sustained throughout the project. Such engagement can neutralize prior negativity and increase positive perceptions of the project by top management.

Make top management do the project favors

Top management may be unwilling to allocate large amounts of resources, participate seriously in the project, and get involved. But they are often willing to do something as small as talk to someone. Management may initially adopt an uncommitted stance while performing these favors. In the product engineering division case, the manager

committed his personal time to the project, despite his initial hostility. However, these small favors are critical, opening new cracks in the opinion and behaviors of management about the project.

Small favors can be employed as a veiled strategy by the IT team to assert control on a recalcitrant manager, making the manager more susceptible to the influence of the IT team. In accordance with induced compliance (Festinger and Carlsmith 1959), this helps sway management in favor of the project.

Increase the size of favors over time and make small concessions

As top management does favors and begins to get committed to the project, the project team should ask for more favors of a more intense nature. Each favor granted by management amplifies management's positive feelings towards the project and makes management more engaged and feel responsible. In the finance division, the manager even appeared in meetings without being asked to attend. Cognitive dissonance and increasing positivity locks the manager into a situation where his commitment to the project increases (Alessandri et al. 2008; Festinger 1957).

Our interview data suggests concessions by the IT team also contribute to the favor-doing spiral. With favor doing rewarded by small IT concessions (e.g. change in the implementation plan, methodology and schedule), top management feels encouraged without feeling exploited.

CONCLUSION

This paper has demonstrated TMS is within an IS project team's locus of influence. Specifically, the team can obtain such support by engaging with top management and asking them to do (initially small) favors. Over time, as top management is asked to do more for the project, they become increasingly committed and more favorably inclined to the project. This approach challenges the traditional approach to engage stakeholders through rational persuasion.

This paper has limitations. First, our findings arise from a single project site. Further research needs to see if our findings are generalizable to different contexts. Second, our research says nothing about the relationship between TMS and project success, given a common ERP is implemented. Substantial research has already established the link between TMS and success.

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